

**ABSTRACT**

An embodiment of the present invention provides for a precharge circuit comprising a power source, a first transistor, a second transistor, and an input node. The power source is in electrical communication with the first transistor where the first transistor selectively conducts current from the power source during a precharge phase. The second transistor is in electrical communication with the first transistor and configured to provide negative feedback to the first transistor. Further, the second transistor is configured to adjust current flowing through the first transistor based on the temperature of the first transistor. The input node is in electrical communication with the first and second transistor and provides an initial signal to activate the precharge circuit.